

Notice of Allowability

Application No.

10/762,908

Examiner

Vinod D. Patel

Applicant(s)

CROOKSHANKS, DENNIS M.

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1-22-04.
2. ☒ The allowed claim(s) is/are 1-4,6,8,9,12-17 and 19.
3. ☒ The drawings filed on 22 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/22/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James Lucas on 8/20/04.

The application has been amended as follows:

Claims; Claims 1-20 are replaced with following claims.

1. (amended) A resistance soldering iron comprising:
a soldering tip having a longitudinally extending body terminating in a bit, said body including a pair of longitudinally extending trapezoidal slots;
and
a pair of conductors in contact with the body of the soldering tip, the conductors comprising carbon electrodes adapted to be connected to a source of electrical current to generate heat within the soldering tip when the conductors are connected to a source of electricity, each carbon electrode having a trapezoidal cross-sectional shape and engaging one of the slots in the body of the soldering tip.
2. (original) The soldering iron of claim 1 further including a handle to permit grasping of the soldering iron.

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3. (original) The soldering iron according to claim 2 further provided with a pivot feature to permit a user to adjust the angle of the body of the soldering tip and the electrodes with respect to the handle.
4. (amended) The soldering iron according to claim 3 wherein each carbon [conductor] electrode is a graphite electrode that is pivotally secured to a buss bar utilizing a fastener.
5. (cancelled)
6. (amended) The soldering iron according to claim 1 wherein [each carbon electrode has a surface that conforms to the body of the soldering tip, and] the soldering iron includes clamping means for frictionally engaging the electrodes with the body when tightened and for permitting the body to slide in a longitudinal direction with respect to the electrodes when loosened.
7. (cancelled)
8. (amended) A method of using an electrical resistance soldering iron composed of a soldering tip, having a longitudinally extending body terminating in a bit, to solder contiguous metal pieces together, comprising the steps of:
 - a) providing two diametrically opposed, blind, longitudinal slots in the body of the soldering tip, said slots each having a trapezoidal shape;
 - b) providing carbon electrodes with a trapezoidal shape corresponding to the shape of the slots into the slots;
 - c) inserting the electrodes into the slots and securing the electrodes in the slots using an insulated disc attached to the body of the soldering tip, and covering the opening of each slot;
[securing the body of the soldering tip between a pair of shaped carbon electrodes;]

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[b] d) passing electrical current through the electrodes to heat the bit to soldering temperature;

[c] e) juxtaposing the metal pieces to be joined by solder;

[d] f) flowing solder that has been heated and liquefied by the soldering iron onto the juxtaposed pieces; and

[e] g) allowing the solder to cool to join the pieces together.

9. (original) The method according to claim 8 wherein the pieces to be joined are sheet metal.

10. (cancelled)

11. (cancelled)

12. (original) The method according to claim 8 further including the step of providing a handle to permit the soldering iron to be hand held during soldering.

13. (original) The method according to claim 12 further including the step of providing means to permit the soldering tip to be pivoted with respect to the handle.

14. (amend) The method of claim 8 including the step[s of shaping the electrodes to conform to the outer perimeter of the body of the soldering tip, and] of clamping the electrodes to the body.

15. (original) The method according to claim 14 further including the step of unclamping the electrodes to permit longitudinal adjustment of the soldering tip with respect to the electrodes.

16. (amended) A device for the resistance soldering of sheet metal comprising:

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- a) a source of low voltage electrical current; and
- b) a soldering iron having
 - 1. a soldering tip comprising a longitudinally extending body terminating in a bit, said body including two opposed, blind longitudinal trapezoidal shaped slots;
 - 2. a pair of carbon electrodes joined to the source of low voltage electrical current, each of the electrodes having a trapezoidal cross-sectional shape and engaging one of the slots in the [and coupled to the] body of the soldering tip; and
 - 3. a handle with which to safely hold the soldering iron.

17. (original) The device according to claim 16 wherein the electrodes and the body of the soldering tip are rotationally movable with respect to the handle.

18. (cancelled)

19. (amended) The device according to claim 16 wherein [the carbon electrodes are shaped to conform to the periphery of the body, and] clamping means are used to secure the body between the electrodes and to either permit or to limit relative axial movement of the body with respect to the electrodes.

20. (canceled)

Allowable Subject Matter

- 2. Claims 1-4, 6, 8-9, 12-17 and 19 are allowed.
- 3. The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach to one of ordinary skill in the art, in combination with the other limitations of the independent claims, a resistance soldering iron comprising a

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soldering tip having a longitudinally extending body terminating in a bit, the body including a pair of longitudinally extending trapezoidal slots, a pair carbon electrode having a trapezoidal cross-sectional shape and engaging one of the slots in the body of the soldering tip.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Forshee (US1519246), Amundsen (US1928522), Schleif (US2146854), Harlan (US2162615), Reitan (US2424848), Burger (US2430666), Hawikins (US2439296), Shay (US2469479), Obolensky (US2689901), Pearce (US2692925), Hurlebaus (US3089020), Holday (US4779786), Axinte (US6646228) relate to soldering iron.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod D. Patel whose telephone number is 703-308-5227. The examiner can normally be reached on 7.30 A.M. TO 4.00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VP

Vinod Patel
Patent Examiner



ROBIN O. EVANS
PRIMARY EXAMINER

8/23/04